UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,496	12/05/2003	Punam K. Saha	P-2944	9711

67283 7590 06/09/2008

MONTGOMERY, MCCRACKEN, WALKER & RHOADS, LLP
123 SOUTH BROAD STREET
AVENUE OF THE ARTS
PHILADELPHIA, PA 19109

EXAMINER	
KRASNIC, BERNARD	
ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
06/09/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/728,496	SAHA ET AL.	
	Examiner	Art Unit	
	BERNARD KRASNIC	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/25/2008 has been entered.

2. The application has pending claim(s) 1-30.

3. In view of the papers filed 2/25/2008, it has been found that this nonprovisional application, as filed, through error and without deceptive intent, improperly set forth the inventorship, and accordingly, this application has been corrected in compliance with 37 CFR 1.48(a). The inventorship of this application has been changed by the addition of Bryon Gomberg.

The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of Office records to reflect the inventorship as corrected.

4. In response to the Request for Continued Examination filed on 2/25/2008:

The "Objections to the claims" have been entered and therefore the Examiner withdraws the objections to the claims.

The "Claim rejections under 35 U.S.C. 112, first paragraph" have been entered, but the Applicant has not amended a few of the addressed 35 U.S.C. 112 first paragraph issues and therefore the Examiner has once again addressed these issues.

The "Claim rejections under 35 U.S.C. 101" have been entered, but the Applicant has not amended a few of the addressed 35 U.S.C. 101 issues and therefore the Examiner has once again addressed these issues.

5. Applicant's arguments with respect to claim(s) 1-30 have been considered but are moot in view of the new ground(s) of rejection because of the Request for Continued Examination (RCE).

6. Applicant's arguments filed 2/25/2008 have been fully considered but they are not entirely persuasive.

The Applicant alleges, "Request for Correction …" in page 6, and states respectively that the inventorship was inadvertently and unintentionally without deceptive intent improperly set forth in the application as filed and has seeked correction by a request to correct inventorship pursuant to 37 C.F.R. 1.48(a). As stated above, the request has been entered and the correction has been processed.

The Applicant alleges, "Response to the Rejection under 35 U.S.C. 101 …" in pages 6-7, and states respectively in light of the Examiner's comments, the claims have been amended to overcome the 35 U.S.C. 101 rejections. The Examiner appreciates

the Applicants amendments, but certain issues still have not been resolved. Further discussions will be addressed below in the 35 U.S.C. 101 Rejection section.

The Applicant alleges, "Response to the Rejection under 35 U.S.C. 112 first paragraph …" in page 7, and states respectively that the specification in paragraph 0076 gives support for the additional claim language "compiling a report or revised image based upon the FDT calculation" and therefore is not new matter since it is disclosed in the specification. The Examiner agrees that the specification in paragraph 0076 gives support for the additional claim limitation of compiling a revised image based upon the FDT calculation but still doesn't see how the specification is read to support the claim language for the compiling a report based upon the FDT calculation. *This compiling of a report based upon the FDT calculation is new matter because it has no support in the disclosure for such claim language and therefore the Examiner still maintains the 35 U.S.C. 112 first paragraph rejection on claims 1, 17, and 29 for these reasons*.

The Applicant alleges, "Response to the Rejection under 35 U.S.C. 102(a) …" in pages 7-8 and "Response to the Rejection under 35 U.S.C. 103(a) …" in pages 8-9, and states respectively that the rejections should be withdrawn in light of the correction of inventorship and since the cited "Fuzzy distance transform: Theory, algorithms and applications" by Gomberg is therefore the Applicant's own work. The Examiner agrees and has withdrawn the "Fuzzy distance transform: Theory, algorithms and applications" prior art reference. *However, the claims are still not in condition for allowance because*

they are still not patentably distinguishable over the new prior art references as will be discussed below in the prior art rejections.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

> Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in Sec. 101.
>
> ... a signal does not fall within one of the four statutory classes of Sec. 101.
>
> ... signal claims are ineligible for patent protection because they do not fall within any of the four statutory classes of Sec. 101.

Claim(s) 25-28 and 30 is/are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim(s) 25 and 30 defines a computer-readable medium which could be "a signal-bearing medium" as has been disclosed in the original disclosure of the application with descriptive material. While "functional descriptive material" may be claimed as a statutory product (i.e., a "manufacture") when embodied on a tangible computer readable medium, a signal-bearing medium embodying that same functional descriptive material is neither a process nor a product (i.e., a tangible "thing") and therefore does not fall within one of

the four statutory classes of § 101. Rather, "signal" is a form of energy, in the absence of any physical structure or tangible material. Although the Applicant has deleted the phrase "signal-bearing" from the claim language, the original disclosure still provides the scope of the medium to embody a signal. Therefore the Examiner suggests the Applicant to specifically include claim language that directly indicates that a computer readable medium isn't identified as a signal bearing medium.

Claims 26-28 are dependent upon claim 25.

9. The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.
>
> When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).
>
> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim(s) 29 is/are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 29 defines a "system".

However, while the preamble defines a "system", which would typically be indicative of an "apparatus", the body of the claim lacks definite structure indicative of a physical apparatus. Furthermore, the specification indicates that the invention may be embodied as pure software (see paragraph 0076). Therefore, the claim as a whole appears to be nothing more than a "system" of software elements [means language indicative of a software], thus defining functional descriptive material per se.

Functional descriptive material may be statutory if it resides on a "computer-readable medium or computer-readable memory". The claim(s) indicated above lack structure, and do not define a computer readable medium and are thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). The scope of the presently claimed invention encompasses products that are not necessarily computer readable, and thus NOT able to impart any functionality of the recited program. The examiner suggests:

1. Amending the claim(s) to embody the program on "computer-readable medium" or equivalent; assuming the specification does NOT define the computer readable medium as a "signal", "carrier wave", or "transmission medium" which are deemed non-statutory; or

2. Adding structure to the body of the claim that would clearly define a statutory apparatus.

Any amendment to the claim should be commensurate with its corresponding disclosure.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 1, 17 and 29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The previously amended limitation "compiling a report or revised image based upon the FDT calculation" is not specifically disclosed in the specification and therefore is considered as new matter.

Claims 2-16 are dependent upon claim 1.

Claims 18-24 are dependent upon claim 17.

12. Claims 29 and 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. *The specification does not enable one of ordinary skill in the art with the appropriate structure layout [providing appropriate structure components for establishing the means for accomplishing each specific function] for the different means plus function claim limitations as recited in claims 29 and 30 respectively*.

Appropriate correction is required.

13. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 29 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is indefinite and unclear what the different structure components of the system and the computer readable medium are in correspondence with the means plus function as recited in claims 29 and 30 refer to; each means in a means plus function claim must refer to a specific structure element of the system claim or of the computer readable medium claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

16. Claims 1, 17, 25, 29 and 30 are rejected under 35 U.S.C. 102(a) as being anticipated by Takahashi ("Trabecular bone thickness from in vivo MRI using Fuzzy Distance Transform" – Proc. Intl. Soc. Mag. Reson. Med. 10, May 18-24 2002).
Re Claim 1 [as best understood by the Examiner]: Takahashi discloses a fuzzy distance transform-based computational method / Fuzzy Distance Transform for analyzing digital images / CT or MRI images defining a volumetric region / slice from CT or MRI data set of an object / trabecular bone from an image comprising: (a) obtaining an image / CT or MRI image of the targeted object / trabecular bone (see paragraphs "Measurement of the thickness …" and Section Introduction, Section Results and Discussion); (b) finding a plurality of points in the image to generate a fuzzy subset / fuzzy subset S and calculating a fuzzy distance transform (FDT) / Fuzzy Distance Transform FDT of the fuzzy subset (see Section Theory); and (c) compiling a report or revised image / FDT resulting image (see Figure 1b) based upon the FDT calculations (see Figures 1a and 1b, paragraphs "Measurement of the thickness …" to "A dynamic programming algorithm was implemented ...", figure 1a shows the in vivo MRI image of the human trabecular bone and after implementing the Fuzzy Distance Transform FDT calculation generating a revised image as shown in figure 1b).

Re Claim 17 [as best understood by the Examiner]: Takahashi discloses a fuzzy distance transform-based computational method / Fuzzy Distance Transform for evaluating or diagnosing bone disease / in vivo measurement of trabecular thinning in a subject / human by analyzing digital images / CT and MRI images defining at least one volumetric region / slice from CT or MRI data set of bone / trabecular human bone from or in the subject / human (see figure 1, paragraphs “Measurement of the thickness …” and Section Introduction, Section Results and Discussion), the method comprising (a) obtaining an image / CT or MRI image of targeted bone region / trabecular bone (see paragraphs “Measurement of the thickness …” and Section Introduction, Section Results and Discussion); (b) finding a plurality of points in the image to generate a fuzzy subset / fuzzy subset S and calculating a fuzzy distance transform (FDT) / Fuzzy Distance Trasnfrom FDT of the fuzzy subset (see Section Theory); and (c) compiling a report or revised image / FDT resulting image (see Figure 1b) based upon the FDT calculations (see Figures 1a and 1b, paragraphs “Measurement of the thickness …” to “A dynamic programming algorithm was implemented ...", figure 1a shows the in vivo MRI image of the human trabecular bone and after implementing the Fuzzy Distance Transform FDT calculation generating a revised image as shown in figure 1b).

Re Claim 25: Takahashi discloses a computer readable medium encoded with computer readable instructions for computing a dynamic programming-based algorithm / a dynamic programming algorithm to compute fuzzy distance transform (FDT) / Fuzzy

Distance Trasform FDT by means of a plurality of points in a digital image / CT or MRI image of a target object / trabecular bone used to generate a fuzzy subset / fuzzy subset S, and to calculate the FDT / Fuzzy Distance Transform FDT of the fuzzy subset, the FDT terminating in a finite number of steps / terminates in a finite number of steps, thereby calculating structural thickness / thickness of bone structure of an object / bone from the digital image (see Figures 1a and 1b, paragraphs “Measurement of the thickness …” to “A dynamic programming algorithm was implemented ...", figure 1a shows the in vivo MRI image of the human trabecular bone and after implementing the Fuzzy Distance Transform FDT calculation generating a revised image as shown in figure 1b).

As to claim 29 [as best understood by the Examiner], the claim is the corresponding means plus function system claim to claim 1 respectively. The discussions are addressed with regard to claim 1.

The limitations, as recited in claim 29, “means for obtaining” in line 3, “means for defining” in line 4, “means for finding” in line 5, and “means for calculating” in line 6, and “means for reporting same or for providing” in line 7, invoke 35 U.S.C. 112, sixth paragraph.

As to claim 30 [as best understood by the Examiner], the claim is the corresponding means plus function computer readable medium claim to claims 1 and 25 respectively. The discussions are addressed with regard to claims 1 and 25.

Regarding claim 30, the limitations "means in the medium for acquiring or reading" in line 5, "means in the medium for identifying" in line 7, and "means in the medium for calculating" in line 9, invoke 35 U.S.C. 112 6th paragraph.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. Claims 2-16, 18-21 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Wang ("Some sequential algorithms for a generalized distance transformation based on minkowski operations" – IEEE – 1992, pages 1114-1121).

Re Claim 2: However Takahashi doesn't specifically disclose assigning to a point in the fuzzy subset its respective fuzzy distance from a complement of a support of the fuzzy subset.

Wang discloses assigning to a point in the subset its respective distance from a complement of a support of the subset (see page 1115, paragraph "Rosenfeld [2] has first proposed a DT based on the …" and "The medial axis transformation (or skeleton) …").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Takahashi using Wang's teaching by including

such an assignment to Takahashi's Fuzzy Distance Transform in order to provide the *Distance Transform basics* to the further developed Fuzzy Distance Transform.

Re Claim 3: Takahashi further describes the support comprises a set of all points in the fuzzy subset with a value greater than or equal to a support value (see Takahashi, Section Theory).

Re Claim 4: Takahashi further discloses the FDT / Fuzzy Distance Transform is in digital cubic space (see Takahashi, see Figures 1a and 1b, paragraphs "Measurement of the thickness …" to "A dynamic programming algorithm was implemented ...", the CT and MRI images are of a 3D data set and the Fuzzy Distance Transform is applied to a slice of this volumetric or cubic space).

Re Claim 5: Wang further discloses the step of sampling FDT values along a medial axis of the support of the fuzzy subset to estimate regional target object thickness distribution (see Wang, page 1115, paragraph "The medial axis transformation (or skeleton …", the medial axis transformation is used to estimate the regional thickness by basically getting the skeleton [Takahashi also finds this skeleton as shown in Figure 1b of Takahashi which is very similar to the applicant's discussion of medial axis in regards to the applicants specification paragraph 0023 and applicant's figure 3b and 3c]).

Re Claim 6: Takahashi further discloses the target object comprises bone marrow space, cortical bone / trabecular bone, blood vessels or lung airways (see Takahashi, see paragraphs “Measurement of the thickness …” and Section Introduction).

Re Claim 7: Takahashi further discloses the FDT / Fuzzy Distance Transform is computed in digital cubic space of resolution of target object thickness or smaller (see Takahashi, see Figures 1a and 1b, paragraphs “Measurement of the thickness …” to “A dynamic programming algorithm was implemented ...", the CT and MRI images are of a 3D data set and the Fuzzy Distance Transform is applied to a slice of this volumetric or cubic space of the trabecular bone).

Re Claim 8: Takahashi further discloses the target object / trabecular bone is in or from an animal / rabbits or human subject / human (see Takahashi, figure 1, paragraph “The third experiment was aimed at …”).

Re Claim 9: Takahashi further discloses the image is obtained by magnetic resonance / MRI or computed tomography / CT (see Takahashi, paragraph “Measurement of the thickness …”).

As to claim 10, the discussions are addressed with respect to claim 5.

Re Claim 16: Wang further discloses applying one or more additional steps consisting of skeletonizing / skeleton, feature extracting; analyzing morphological or shape-based object, computing regional object depth; calculating average or regional object thickness distribution; and local scaling (see Wang, page 1115, paragraph "The medial axis transformation (or skeleton …", the medial axis or skeleton [Takahashi also finds this skeleton as shown in Figure 1b of Takahashi which is very similar to the applicant's discussion of medial axis in regards to the applicants specification paragraph 0023 and applicant's figure 3b and 3c]).

As to claims 11-15, the discussions are addressed with respect to claims 4 and 6-9.

As to claims 18-21, the discussions are addressed with respect to claims 2-5.

As to claims 26-28, the discussions are addressed with respect to claims 2-4.

The limitation "means for assigning" in line 2 of claim 26 invokes 35 U.S.C 112, sixth paragraph.

19. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Gomberg ("In vivo magnetic resonance based virtual bone biopsy" - Dissertation, as applied in previous Office Action). The teachings of Takahashi have been discussed above.

Re Claim 22: However, Takahashi fails to specifically disclose or fairly suggest selecting a therapy based on the diagnosis or evaluation.

Gomberg (Dissertation), as recited in claim 22, discloses selecting a therapy based on the diagnosis or evaluation of bone disease in the subject (see Chapter 1, pages 1-3, "indicate optimal treatment to restore bone strength and monitor therapy response").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Takahashi evaluating and diagnosing or measurement of the trabecular thinning method using Gomberg's (Dissertation) teachings by including the ability to select and administer therapy to the bone while monitoring the progression or regression of the bone in order to have a possible noninvasive structural analysis of trabecular bones (see Gomberg [Dissertation], Chapter 1, page 3, paragraph 2).

Re Claim 23: Gomberg (Dissertation) further discloses administering said therapy to the subject (see Chapter 1, pages 1-3, "indicate optimal treatment to restore bone strength and monitor therapy response").

Re Claim 24: Gomberg (Dissertation) further discloses monitoring a progression or regression of bone disease in the subject, during or at one or more times after administering said selected therapy (see Chapter 1, pages 1-3, "indicate optimal treatment to restore bone strength and monitor therapy response").

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Borgefors discloses a Fuzzy border distance transforms and their use in 2D skeletonization.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh M. Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bernard Krasnic
June 2, 2008
/Brian Q Le/
Primary Examiner, Art Unit 2624